
NOXIOUS WEEDS

Characterization

About 330 nonnative plants are known or suspected to occur in the Coos Bay District. These include 88 noxious weed species. Known sites with noxious weeds occur primarily in disturbed areas, such as along roads and in recently logged areas scattered through the North Fork Coquille Watershed. Based on casual observation, noxious weeds are also present on the agricultural lands in the Watershed. The noxious weed species in the Watershed include gorse (*Ulex europaeus*), scotch broom (*Cytisus scoparius*), French broom (*Cytisus monospermanus*), Klamath weed (*Hypericum perforatum*), tansy ragwort (*Senecio jacobaea*), bull thistle (*Cirsium vulgare*), St. John's wort (*Hypericum perforatum*), and Canadian thistle (*Cirsium arvense*).

Noxious weeds originate from other continents and can displace native species because they arrive without the host of predators, disease, and other ecosystem components that limit their abundance in their native range. The result can be a monotypic community that is less able to provide the forage, nesting, perching, and cavity habitats formerly provided by the displaced native plant community. Noxious weeds also reduce the quality of forage because many of these weeds are toxic or otherwise unpalatable.

The noxious weeds encountered in the Watershed are herb and shrub species that would be shaded out by a closed canopy stand of trees and therefore are generally not a threat in mid to late seral forests.

Current Conditions

Noxious weeds are currently not present in large quantities in the Watershed. However, the potential for a serious problem is always present, especially concerning Scotch broom (*Cytisus scoparius*) and French broom (*Genista monospermanus*). Broom plants are more commonly found in the populated areas of the Watershed, along right-of-ways, and on old landings. Scotch broom has become locally established with sites on Shuck Mountain and Vaughns Creek. Broom most likely came into the Watershed on heavy equipment or in contaminated gravel although other methods cannot be discounted. The distribution pattern of broom along roads suggests it was spread by traffic and routine road maintenance. The Scotch broom seed weevil (*Apion fuscirostre*), which only attacks scotch broom, is present and effectively reduces seed production, but does not affect survival of established broom plants. Two other biological agents attack Scotch broom. They are broom tip moth (*Agonopterix nervosa*), and Scotch broom twig miner (*Leucoptera spartifoliella*). Broom seeds are long lived and sprout in response to sunlight, fire, or site disturbance. Our experience in the northern portion of the resource area shows broom can reach epidemic proportions if left unchecked.

Only a few gorse plants have been found near Cherry Creek, Fairview and Hudson Creek. However, they have the potential to propagate into large colonies in a short amount of time. Known sites of gorse on BLM administered lands have been manually and chemically treated and monitored since 1994. No fully effective biological control agents for gorse are available but some new agents have recently been approved. The gorse seed weevil (*Apion ulicis*) is present in the county. This weevil retards plant spread by destroying seeds but does not kill established plants. With the increasing spread of gorse from the Bandon area and up the coast along Highway 101, there is an increasing risk that heavy equipment and recreational vehicles will vector gorse into the Watershed, in the absence of effective sanitation measures. Gorse seeds are long lived and sprout in response to sunlight, fire, or site disturbance.

Gorse, Scotch broom, and French broom are known to cause habitat degradation in the Coast Range. If left uncontrolled, gorse and the broom species can invade early seral sites, like tree plantations, and form closed canopy brush fields that can exclude all other vegetation including trees. Broom and gorse

established along forest roads can damage the exterior of vehicles, increase the cost of right-of-way maintenance, and are a source of seed that can be spread to uninfected areas by vehicles.

Canadian thistle (*Cirsium arvense*) has the potential to have a serious impact on pastures in the Watershed. Some pastures along North Fork Coquille have had problem areas of Canadian thistle in the past. Canadian thistle was recently observed on land by Middle Creek leased from the BLM for grazing.

Some noxious weed species are widespread along the road systems in this Watershed. Most of these roadside weeds are not a serious threat to forest resources. These weeds include bull thistle (*Cirsium vulgare*), tansy ragwort (*Senecio jacobaea*), and Klamath weed (*Hypericum perforatum*). Tansy ragwort and Klamath weed are typically found along roads, usually occurring as scattered individuals.

Tansy ragwort (*Senecio jacobaea*) had at one time reached epidemic proportions. The introduction of the cinnabar moth (*Tyria jacobaeae*) and flea beetles several years ago have brought tansy under control. Tansy is present in low numbers in the Watershed. Informal examination of tansy plants has found them all infected by one or the other control agents. Tansy and the insect biological control agent populations currently fluctuate in cycles, with the populations of biological control agents building and dropping in response to the increases and decreases in the tansy population.

Reference Conditions

The profile of a reference condition for noxious weeds would be an area that is not only without noxious weeds, but also without any nonnative plants. Currently, this condition is most likely found in mid to late-seral forests, away from the influence of roads. Examples of early seral forest sites, and open areas dominated by herbaceous species, that are free of nonnative plants are rare in the Watershed.

Noxious weeds are generally pioneer species in their native range. Consequently, they typically benefit from full sunlight and recent disturbance. All the known noxious weeds in the analysis are introduced species. Therefore, their occurrences are not consistent with reference conditions.

Synthesis and Interpretation

Many activities, including road building, timber harvest, and agricultural practices, contribute to the invasion of noxious weeds in the Watershed. Vehicles and equipment moving from infected to weed free areas are the main vectors for the spread of weeds. Ground disturbance predisposes forest land to invasion by quick-colonizing nonnative species. Seeds may be carried in by vehicles, logging equipment, or as contaminants in erosion control and forage seed mixtures, fill material and gravel. In forested areas, the higher light level found along roadsides allows roads to serve as corridors for weed invasion. Once established along road right-of-ways, the seeds of many weed species can then disperse into nearby disturbed sites away from the roads.

In agricultural areas, weeds are often introduced in straw, hay, or seed mixtures. These weeds are spread by animal hooves, fur and other dispersal methods. Birds and other animals may also spread nonnative plants by ingestion, or by seed temporarily adhering to their bodies. Some noxious weeds, such as French broom and purple loosestrife, have aesthetic value to gardeners, and are introduced into an area by spreading from flower gardens.

Prevention of the introduction of noxious weed species (or detections and eradication before they spread from initial points of infestation) is the most time and cost-effective method of control. Noxious weeds need immediate treatment upon discovery to enable eradication. When populations become established, they can no longer be eradicated. If epidemic proportions are reached, then prevention of further spread from existing sites is the only feasible option.

Eradication/control can be accomplished through mechanical, biological, chemical suppression, and/or revegetation. Each of these methods of control can have potentially severe impacts to the environment. Therefore, knowing each weeds physiology is imperative for maximum benefit and minimum impacts. Currently, natural revegetation, mechanical, and chemical treatments, particularly when used in combination, are the best methods for eradication. While biological control has great appeal, the testing of new biological control agents is a slow expensive process that must be done to insure the introduction of the candidate agent would not itself adversely affect the environment. Furthermore, biological control agents can help control but cannot eradicate a noxious weed species.

The noxious weeds known to occur in the Watershed are disturbance dependent early seral species. Canopy closure and subsequent light deprivation will ultimately control weed species growing inside plantations. An exception is Scotch broom, as its seed remains viable in the soil for about 80 years. Therefore, Scotch broom may be perpetuated on forest land where rotations are less than 80 years when plants are allowed to produce seed. Once broom is established, road construction and maintenance will likely provide the disturbances necessary for regeneration of noxious weed species.

The propensity for noxious weeds to invade open disturbed sites will add to the problems of restoring and maintaining plant assemblages associated with fire dependent and open special habitats like dry prairie and rock land areas. Active management may be necessary to remove noxious and other nonnative plants from special habitat areas, and to prevent their invasion following treatments to restore special habitats to areas formerly lost to forest encroachment.